

**REMARKS**

**Status of the Claims**

Claims 1-40 are pending. Claims 3, 17-31 and 37-40 have been withdrawn from consideration and claims 1, 2, 4-16 and 32-36 are under active examination.

**Rejections Withdrawn**

Applicants note with appreciation withdrawal of the rejection under 35 U.S.C. § 102.

**Request to Withdraw Finality**

Applicants respectfully request that the Office withdraw the finality of this Office Action and issue a non-final Office Action in this case. This request is made because (1) the newly presented rejections based on Keefer et al. were not necessitated by Applicants' previous amendments and (2) the Keefer et al. reference has not been fully cited by the Office and/or provided to Applicants.

As indicated in M.P.E.P. 706.07(a), final rejection is not proper when it is neither necessitated by Applicants' amendments nor based on information submitted in an IDS. In the pending case, Applicants' previous amendments made explicit what was previously implicit. Therefore, there is no reason that the rejections newly presented in this Final Office Action could not have been made previously. In addition, the Final Office Action cites Keefer et al. for the first time without identifying or providing a copy of this reference. In order to fully and properly respond to the rejections based on this reference, the reference should be provided (or identified) before finally rejecting any claims.

Therefore, Applicants request that the outstanding Office Action be considered non-final and this response treated accordingly.

**35 U.S.C. § 103(a)**

**A. Claims 1, 2, 4-10 and 13-16**

Claims 1, 2, 4-10 and 13-16 were rejected as allegedly obvious over Vajdy in view of Keefer et al. (Final Office Action, pages 2-4). Vajdy was cited for teaching intranasal administration of mice with HIV and an LTK63 adjuvant. *Id.* Keefer was cited for teaching

concentrations of gp120. *Id.* Thus, the rejection is premised on the assertion that a *prima facie* case of obviousness has been established with regard to the use of specific amounts of antigen. (Final Office Action, page 4).

As noted above in the request to withdraw finality, Applicants request clarification regarding the full citation of the Keefer reference. This reference was not cited on the PTO-892 form attached to the Final Office Action and Applicants cannot review it. Thus, the following traversal is based on the Examiner's characterization of the reference in the outstanding Office Action.

As noted by the Examiner, claims 1, 2, 4-10 and 13-16 require specific amounts of an HIV Env antigen be used in combination with an LTK63 adjuvant. Vajdy does not disclose any amounts whatsoever of HIV Env antigen. With regard to Keefer, the Examiner does not in any indicate that the cited Keefer reference discloses anything about HIV Env antigen concentrations when used with the LTK63 adjuvant. Moreover, according to the Office, Keefer teaches away from using less than 640 micrograms of an HIV Env antigen-containing composition because lower dosages exhibited less immunogenicity. (Final Office Action, page 4).

Given that the primary reference fails to teach or suggest anything about HIV Env antigen dosages and the secondary reference is characterized as teaching away from using concentrations lower than 640  $\mu\text{g}$ , a *prima facie* case of obviousness cannot be sustained.

Furthermore, in support of the rejection, the Examiner cited M.P.E.P. § 2144.05 for the proposition that optimization of dosage ranges is necessarily obvious. (Final Office Action, page 3). Applicants note that § 2144.05 of the M.P.E.P. refers to situations in which the references and claims contain overlapping ranges (see, M.P.E.P. § 2144.05 III, emphasis added):

Applicants can rebut a *prima facie* case of obviousness **based on overlapping** ranges by showing the criticality of the claimed range. "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

Vajdy contains no indication of dosage ranges for HIV Env antigens when used with LTK63 and Keefer appears to be silent as LTK63-HIV Env antigen compositions altogether. Accordingly, a *prima facie* case of obviousness has not been made and does not need to be rebutted.

Applicants further note that it is axiomatic that an obviousness rejection cannot be predicated on that which is allegedly inherent:

The inherency of an advantage and its obviousness are entirely different questions. That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown. *In re Shetty, supra* quoting *In re Sporman*, 150 USPQ 449 (CCPA 1966).

In the instant case, the rejection is based on the assertion that compositions comprising about 0.1 to 1000  $\mu$ g of an HIV Env antigen and LTK63 are somehow inherently disclosed in Vajdy and/or Keefer. However, an obviousness rejection cannot be predicated on what is unknown, *i.e.*, concentrations of HIV Env antigens when used with LTK63. Thus, the rejection cannot be sustained.

#### B. Claims 1, 11 and 12

Claims 11 and 12 were rejected as allegedly obvious over Vajdy in view of Keefer as applied to claims 1, 2, 4-10 and 13-16 above and in further view of Kumar and Narayan, Haynes, Kang, Tobery and Siliciano, Cease and Berzofsky and Vogel. (Final Office Action, pages 4-5). It was acknowledged that Vajdy and Keefer do not teach compositions comprising HIV regulatory proteins (*e.g.*, Tat and Rev) and/or HIV accessory proteins (*e.g.*, Vpu, Vpr, Vif, and Nef) as set forth in claims 11 and 12. *Id.* However, it was alleged that the motivation to combine Vajdy and Keefer with the various secondary is that the “envelope protein alone would be insufficient to elicit an effective and complete immune response as taught by many researchers in the field.” *Id.* at page 5.

Vajdy and Keefer fail to teach or suggest compositions comprising LTK63-HIV Env antigen compositions having the recited amounts of the HIV Env antigen. Furthermore, as acknowledged, these references fail to teach or suggest anything about LTK63-HIV Env antigen

compositions further comprising HIV accessory or regulatory proteins, as set forth in claims 11 and 12. *Id.*

The secondary references fail to cure the deficiencies of Vajdy and Keefer. None of them disclose or suggest LTK63.

Moreover, the alleged motivation to combine, namely that the envelope protein alone “would be insufficient to elicit an effective and complete immune response” cannot support the obviousness rejection. Claims 11 and 12 are not directed to methods of eliciting “effective and complete” immune responses or even to methods of eliciting immune responses at all. Rather, claims 11 and 12 are directed to compositions comprising LTK63, specific amounts of an HIV Env antigen and an HIV regulatory or accessory protein. Such compositions are not taught or suggested by the references and the alleged motivation to combine is improperly based on a particular intended use to elicit “complete” immune responses. Indeed, even if the claims did require that an immune response be elicited, the “completeness” of the response cannot be the basis for an obviousness rejection, as it would be amply clear to the skilled artisan that HIV Env antigens alone elicit such immune responses.

#### B. Claims 32-36

Claims 32-36 were also rejected as allegedly obvious over Vajdy and Keefer as applied to claims 1, 2, 4-10 and 13-16 above and in further view of Kumar and Narayan. (Final Office Action, pages 6-7). It was acknowledged that Vajdy does not teach particular amounts of HIV Env antigen set forth in the claims. With regard to Keefer, no indication is given that this reference teaches gp140 or KTK63. *Id.* Kumar and Narayan were cited for teaching the use of live attenuated retroviral vaccines comprising gp120 at a concentration of 100 and 50  $\mu\text{g}$  per inoculation. *Id.* It was alleged that the motivation to combine Vajdy and Keefer with the various secondary is that the “resultant vaccine would be more broadly based” and that there was a reasonable expectation of success. *Id.* at page 5.

Claims 32 to 36 are directed to compositions comprising between 100 and 300  $\mu\text{g}$  of an HIV Env antigen in combination with an LTK63 adjuvant. As noted above with regard to claims 1, 2, 4-10 and 13-16, Vajdy does not disclose any amounts whatsoever of HIV Env antigen and the Examiner indicates that Keefer does not disclose anything about HIV Env antigen

concentrations when used with the LTK63 adjuvant.

Moreover, as noted by the Examiner, Keefer teaches away from using dosages lower than 640  $\mu\text{g}$  of HIV Env antigen (Final Office Action, page 4). On this basis alone, there is no motivation to combine the references to arrive at the subject matter of claims 32-36 and the rejection should be withdrawn.

In addition, claims 35 and 36 specify that the HIV Env antigen is an ogp140 (either a wild-type sequence as in claim 35 or a particular mutant as set forth in claim 36). There is nothing in Keefer, Kumar or Narayan regarding ogp140, including particular concentrations of this antigen. Therefore, again, there is no motivation to combine these references as set forth and, in fact, there is no combination of these references that would result in the particularly claimed subject matter. Accordingly, Applicants respectfully request that the rejections be withdrawn.

**CONCLUSION**

In light of the above remarks and amendments, Applicants submit that the present application is in condition for allowance. Early notice to that effect is earnestly solicited.

If the Examiner contemplates another action, or if a telephone conference would expedite allowance of the claims, the Examiner is invited to contact the undersigned.


The Commissioner is hereby authorized to charge any fees and credit any overpayment of fees which may be required under 37 C.F.R. §1.16, §1.17, or §1.21, to Deposit Account No. 18-1648.

Please direct all further written communications regarding this application to:

Helen Lee  
NOVARTIS VACCINES AND DIAGNOSTICS, INC.  
Intellectual Property - R440  
P. O. Box 8097  
Emeryville, CA 94662-8097  
Tel: (510) 923-2192  
Fax: (510) 655-3542

Respectfully submitted,

Date: November 14, 2006

By:   
Dahna S. Pasternak  
Registration No. 41,411

NOVARTIS VACCINES AND DIAGNOSTICS, INC.  
Intellectual Property - R440  
P. O. Box 8097  
Emeryville, CA 94662-8097